

REMARKS

Claims 1-4, 11-15, and 17-28 are pending. Claims 19-28 have been withdrawn by the Examiner as the result of a restriction requirement made final.

Claims 19-28 are canceled without disclaimer and without prejudice to pursuing the canceled claims in a continuation, continuation-in-part, or divisional application.

Claim 1 is amended herein to include that the oxidation catalyst is for oxidizing nitrogen monoxide in the exhaust gas to nitrogen dioxide, and that there is one downstream catalyst in honeycomb form having a storage component that lacks catalytically active platinum group metals and stores nitrogen dioxide by forming nitrates. Claims 2, 4, 11, 12, 13, 14 and 15 are amended to recite that the catalytically active component is for selective catalytic reduction of nitrogen oxides. Claim 2 is amended to correct an error: "vanadium" of the solid acid system has been amended to "vanadia." Claim 11 has been amended to recite that the honeycomb catalyst is made using an extrudable composition comprising the catalytically active component and the storage component(s) for nitrogen oxides and extruding the composition to form the honeycomb. Claim 12 has been amended to recite that the honeycomb structure of the catalyst is a full extrudate from the catalytically active component. Claim 13 has been amended to recite that the honeycomb structure of the catalyst is obtained by applying the catalytically active component and the SCR component onto an inert honeycomb carrier. Claim 15 has been amended to depend on claim 14, and claims 17 and 18 have been amended to depend on claim 1.

Support for the amendments to the claims can be found in the specification and claims as filed. Support for the amendment to claim 1 can be found, for example, at page 3, lines 22-26; at Figs. 1-3 (showing a single catalyst (4)); at page 6, lines 26-28, page 4, lines 1-23; at page 6, line 24 to page 7, line 10; and page 4, lines 1-10 and lines 28-31. Support for the amendment to claim 2 can be found, for example, in claim 2 as filed, which recites *a solid acid* system of titanium dioxide and vanadium. A person of

ordinary skill would understand that in a *solid acid* system there would be a vanadium oxide (*i.e.*, “vanadia”) instead of elemental vanadium, in combination with titanium dioxide (*i.e.*, the person of ordinary skill would recognize that a “vanadia/titania” catalyst was claimed, not a titania catalyst with elemental vanadium). Support for the amendment of claims 2, 4, 11, 12, 13, 14 and 15 reciting that the catalytically active component is for selective catalytic reduction of nitrogen oxides can be found, for example, at page 2, lines 17-18. Support for the amendments to claim 11 and 12 can be found, for example, at page 4, lines 1-3. Support for the amendment to claim 13 can be found, for example, at page 4, lines 11-14. Support for the dependency amendments of claims 15, 17, and 18 can be found in the claims as filed. The amendments add no new matter. Applicants respectfully request entry of the amendments.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner rejected claims 11, 15, and 17 as allegedly indefinite, asserting that it is unclear in claim 11 which catalyst is referred to in claim 1, and asserted that the dependency of claim 17 should be amended due to cancellation of claim 16.

Applicants respectfully disagree with the Examiner, and assert that a person of ordinary skill in reading the claim in light of the specification would not find claims 11, 15, and 17 indefinite. However, in order to expedite allowance, Applicants have amended claim 1 to refer to “one” instead of “at least one” catalyst in the form of a honeycomb structure with a catalytically active component for SCR of nitrogen oxide. Accordingly, Applicants submit that the amendment to claim 1 clarifies that the catalyst in the form of a honeycomb structure with a catalytically active component for SCR of nitrogen oxide is the catalyst recited in claims 11 and 15. Accordingly, Applicants submit that the amendment renders the Examiner’s rejection of claims 11 and 15 moot.

Applicants have canceled claims 9 and 10. Accordingly, Applicants submit that the Examiner’s indefiniteness rejections are moot.

REJECTIONS UNDER 35 U.S.C. §102(b)

The Examiner rejected claims 1, 2, 11, and 13 as anticipated by EP 0 666 099 (Tsuchitani); and claims 1-4 and 13 as allegedly anticipated by EP 0 723 805 (Kinugasa); claims.

Anticipation requires that a single reference disclose each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data Systems, Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984); as viewed by a person of ordinary skill in the art, there must be no difference between the cited reference and the claimed invention. *Scripps Clinic & Res. Found. v. Genentec, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). Anticipation requires that the cited reference disclose each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.3d 1452, 1458 (Fed. Cir. 1984).

Applicants respectfully disagree with the Examiner and traverse each anticipation rejection. Neither Tsuchitani nor Kinugasa discloses each and every element of the amended claims, arranged as in the amended claims, because the amended claims recite a different exhaust gas treatment system than disclosed in either reference.

Tsuchitani does not anticipate the amended claims because Tsuchitani does not disclose a catalyst of claim 1 wherein the nitrogen oxides storage component(s) lacks a platinum group metal. The Tsuchitani catalyst requires at least one noble metal selected from Pt, Pd, Rh, and Ru or a specified compound thereof (see, for example, Tsuchitani at page 4, lines 9-10; see also Tsuchitani Referential Examples 1-38 and Example 1-2). In contrast, amended claim 1 recites that the nitrogen oxides storage components lack platinum group metals. Thus, Tsuchitani does not anticipate the amended claims.

Kinugasa does not anticipate the amended claims. Kinugasa does not disclose an exhaust gas treatment unit comprising an oxidation catalyst for oxidizing nitrogen monoxide to nitrogen dioxide and downstream thereof ***one catalyst in honeycomb structure*** with a catalytically active component for SCR of nitrogen oxide and at least one storage component for nitrogen oxides, wherein the at least one storage component comprises at least one compound of the recited elements which are able to store nitrogen

dioxides *by forming nitrates*, and wherein the storage component *lacks a catalytically active platinum group metal*. Thus, Kinugasa does not anticipate the amended claims.

Accordingly, Applicants request reconsideration and withdrawal of the anticipation rejections based on Tsuchitani and based on Kinugasa.

REJECTIONS UNDER 35 U.S.C. § 103(a)

The Examiner rejected claim 11 as allegedly obvious in light of Kinugasa in view of Tsuchitani and DE 198 06 062 (Neufert). The Examiner asserted that Kinugasa discloses the apparatus of claim 11, but that Kinugasa does not disclose the specific arrangement of the catalytically active component and the nitrogen storage component in the catalyst. The Examiner asserted that Tsuchitani discloses a catalyst in the form of a honeycomb as a full extrudate or in the form of a coating on an inert honeycomb carrier. The Examiner asserted that Neufert discloses a unit comprising at least one catalyst with a catalytically active component for SCR (comprising titanium dioxide, vanadium, molybdenum oxide, and tungsten oxide) and at least one storage component for nitrogen oxides, where the catalyst is present in a honeycomb form as a full extrudate or coating on an inert honeycomb. The Examiner argued that it would have been obvious to arrange layers for the catalyst since positioning the parts of the apparatus is no more than design choice and well within the knowledge of a person of skill in the art as evidenced by Kinugasa and Neufert, and that rearranging parts of an invention involves only routine skill.

The Examiner rejected claims 12, 14-15, and 17-18 as allegedly obvious in light of Kinugasa in view of Neufert and EP 0 935 055 (Kamikubo). The Examiner asserted that the Kinugasa apparatus matches that of the rejected claims, but Kinugasa does not disclose the specific arrangement of the catalytically active component for reducing nitrogen oxide and the nitrogen oxide storage component in the catalyst. The Examiner asserted that Neufert also teaches the same. The Examiner asserted that Kamikubo discloses a unit comprising at least one catalyst (present in the form of coatings on an inert carrier honeycomb structure) with a catalytically active component (containing at

least one zeolite being exchanged with metal ion) for SCR and at least one storage component for nitrogen oxides such as an alkali metal, an alkali earth metal, etc. The Examiner asserted it would have been obvious to arrange the layers for the catalyst, since positioning the parts of the apparatus is no more than design choice well within the knowledge of a person of ordinary skill, and that rearranging parts of an invention involves only routine skill.

Regarding claims 17-18, the Examiner asserted that Kinugasa catalyst 71 is considered to be a hydrolysis catalyst, and Kinugasa catalyst 7c or 8 is considered to be an ammonia barrier catalyst.

Obviousness requires that the Examiner present teachings in the prior art sufficient for a person of ordinary skill in the art to make the asserted combination or modification. *In re Lintner*, 458 F.2d 1013, 1016 (C.C.P.A. 1972); any suggestion to combine the prior art and the expectation of success in doing so must be in the prior art, not Applicants' disclosure. *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988); *see also, W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 ("[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.")

Applicants respectfully disagree with the Examiner and submit that the amended claims are not obvious in light of the cited references, because the cited references do not suggest modifying the prior art to arrive at the amended claims.

Regarding the Tsuchitani and Kinugasa references, the Examiner is referred to arguments made above in defense of the Examiner's anticipation rejections.

Neither Tsuchitani nor Kinugasa, alone or in combination with any other of the cited references, render the amended claims obvious. None of the references discloses, teaches, or suggests modifying a catalyst disclosed in Tsuchitani or Kinugasa to arrive at a catalyst in accordance with the amended claims. For example, the prior art does not suggest the exhaust gas treatment unit of the amended claims, wherein the storage

component is able to store nitrogen dioxide by forming nitrates, and wherein said storage component for nitrogen oxides comprises no catalytically active platinum group metals.

Neufert, alone or in combination with any other of the cited references, does not render the amended claims obvious. Neufert is silent regarding an upstream oxidation catalyst. In further contrast with Neufert, the amended claims recite that the storage components store nitrogen dioxide by forming nitrates. This is in stark contrast to Neufert, which discloses storing nitrogen oxides by adsorption using Al_2O_3 , SiO_2 , ZrO_2 , zeolites, and layered silicates (see, for example, Neufert at col. 2, lines 26-27).

CONCLUSION

In light of the above, Applicants submit that the cited references do not anticipate the amended claims, and do not render the amended claims obvious. Accordingly, allowance of the amended claims is respectfully requested.

No fee is believed to be due with respect to this filing. If any fees are deemed due, or an overpayment has been made, please charge, or credit, our Deposit Account No. 11-0171 for such sum.

If the Examiner has any questions regarding the present application, the Examiner is cordially invited to contact Applicant's attorney at the telephone number provided below.

Respectfully submitted,



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